

AMENDMENTS TO THE SPECIFICATION

Please delete the last paragraph on page 11 and replace it with the following new paragraphs.

Compact discs for use in the invention are constructed of a dielectric material. Dielectric materials are, by definition, non-conductors, and as such are necessarily distinguished from metals. Compact discs according to the invention preferably correspond to a polycarbonate disc which is the substrate of commercially available compact discs. However, commercially available compact discs, such as audio CDs, which use such a polycarbonate disc as a substrate, are manufactured by subsequently metallizing a molded polycarbonate disc, preferably with aluminum, silver, or gold, to provide reflectivity, whereas the invention employs the polycarbonate substrate prior to metallization. Although employing but one possible dielectric material, data from numerous trials confirms that the use of a polycarbonate surface as the MALDI Target offers several advantages, including: (1) a low signal background from the polycarbonate surface, which was found to produce the lowest background of the 20 different materials tested; (2) a thinness of typically $\approx 1.2\text{mm}$ and a planar surface so that allows the disc to be interposed between the skimmer and the quadrupole without significantly increasing the skimmer quadrupole spacing, thus maintaining the high transport efficiency of ESI-produced ions; (3) hydrophobicity/hydrophilicity properties that ensure that the matrix/sample solutions do not spread out unduly on the surface and at the same time permits the matrix crystals to adhere strongly to the surface; (4) a large accessible surface area, making it straightforward to spot >1000 samples on its

surface; and (5) the possibility of using a variety of inexpensive methods for accurately and rapidly positioning any given sample in the path of the desorbing/ionizing laser beam is important for high-throughput applications. In summary, the polycarbonate or other dielectric discs provide a clean, convenient, compact, and inexpensive means of sample interrogation and storage.

Polycarbonate or other dielectric discs which have not been metallized may be obtained as such from manufacturers of CDs. If unavailable, they may be prepared from standard blank CDs (74 min 650 mb, Silver/Blue, 1-12 × certified CD-R, Cyanine Blue dye) using the following protocol: the metal layer that covers the CD on one side is first removed by making a small scratch in the metal layer and then lifted off with sticky tape. The freshly exposed layer of dye is washed with methanol and then water and a paper label is glued to this cleaned side. Labels may be designed using the FreeHand8 or LabVIEW computer programs and printed with up to 1000 labeled positions patterned on circles or a spiral. Samples are deposited along the labeled positions on the opposite side, i.e., on the CD polycarbonate surface. The labels can be easily read because the CD is transparent.